REMARKS/DISCUSSION OF ISSUES

Applicant thanks the Examiner for acknowledging the claim for priority and receipt of certified copies of all the priority document(s).

The Examiner is respectfully requested to state whether the drawings are acceptable.

Claims 1-3 and 5-9 are rejected under 35 USC 103(a) as being unpatentable over Doughty et al. (U.S. patent 5,866,984) (herein 'Doughty') in view of Thorington et al. (U.S. patent 3,670,193) (herein 'Thorington').

Doughty discloses a mercury-free UV discharge source including a phosphor layer for converting UV radiation of the discharge source to visible light in a fluorescent lamp. See e.g., col. 1, lines 51, 52.

Doughty does not disclose or suggest the use of phosphors capable of emitting UV light upon radiation by UV light, nor does Doughty disclose or suggest a glass discharge vessel with a transmissivity of 20 to 70% for light of 312.6 nm wavelength.

Thorington is cited to show a variety of phosphor compositions for lamps. Based on Thorington's disclosure, the Examiner urges that it would have been obvious to choose 'the appropriate phosphor composition based on the desired light intensity/desired color to be emitted'.

Thorington's invention is directed to producing lamps having an output approximating natural daylight, and thus has as a main objective controlling the UV output to approximate that found in natural daylight. See col. 2, lines 13-24.

Moreover, Thorington's invention is directed to mercury-containing lamps. See col. 2, line 76 and col. 5, line 47.

Accordingly, the mixtures of phosphor compositions disclosed in TABLE II of Thorington are specifically designed to produce spectral characteristics approximating natural daylight in a mercury-containing lamp. These spectral characteristics range from the near UV through the entire visible range. See Figs. 3 and 4.

Neither TABLE II nor Figs. 3 and 4 nor any other part of Thorington identify any wavelength emissions characteristic of any particular phosphor compositions, and especially not any particular phosphor compositions which emit in the UV range when radiated by UV radiation.

Since the spectral characteristics shown in Figs. 3 and 4 are the spectral characteristics of the lamps (see col. 3, lines 47 and 70), they must include the characteristic mercury emissions. Thus, the skilled practitioner would assume that the phosphor mixes disclosed by Thorington are customized for use with lamps having mercury emissions, and would not consider using these mixes in the mercury-free lamp of Doughty.

Thus, while Thorington provides guidance to the skilled practitioner to choose a mixture of phosphor compositions suitable for use in a mercury-containing daylight-radiating lamp, Thorington provides no guidance to the skilled practitioner to choose a particular phosphor composition suitable for use in a mercury-free UV-radiating lamp.

Even if it could be said that Thorington suggests substituting certain phosphors for those of Doughty, there is no teaching or suggestion in either reference to choose a phosphor which emits UV upon UV-excitation. It is only from the benefit of hindsight obtained from Applicant's own teachings that the use of such a phosphor in a mercury-free lamp would be suggested, and such hindsight is not permitted in judging obviousness under Section 103.

For all of these reasons, it is urged that the rejection is in error, and should be withdrawn.

In view of the fact that the combination of Doughty and Thorington fail to teach or suggest the use of phosphors emitting UV upon UV excitation in a mercury-free lamp, new claim 15 is added, which is the same in scope as original claim 1. Claim 15 is allowable for the same reasons urged with respect to rejected claims 1-3 and 5-9.

Claims 10-12 are rejected under 35 USC 103(a) as being unpatentable over Doughty in view of Thorington, and further in view of Traksel et al. (U.S. patent 6,048,241) (herein 'Traksel').

Traksel relates to a low-pressure mercury discharge lamp which is easy to manufacture. Pursuant to this object, the discharge vessel is shaped to allow accessibility of the mercury capsule to exterior radiation needed to open the capsule after it has been sealed into the discharge vessel, and prior to use of the lamp.

Since Traksel is concerned with shape problems related to the manufacture of mercury-containing lamps, the skilled artisan would not be motivated by the teachings of this reference to alter the shape of the discharge vessel of a mercury-free lamp.

Accordingly, the combination of Doughty, Thorington and Traksel does not render claims 10-12 unpatentable, and it is urged that the rejection is in error and should be withdrawn.

In view of the foregoing, Applicant respectfully requests that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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